

DETAILED ACTION

- Applicant's RCE filed 8/23/2010 is acknowledged.
- Claims 10 and 58 have been amended.
- Claims 4,9,11,13,14,17, and 21-57 are cancelled.
- Claims 1-3,5-8, and 12 are withdrawn.
- Claims 1-3,5-8,10,12,15,16,18-20, and 58-63 are pending.
- Applicant's response and amendment with respect to the rejection of claims 10,15,16,18-20, and 58-63 under 35 USC 112 first paragraph is noted and the rejection is withdrawn.

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 8/23/2010 has been entered.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 2471

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 10,15,16,18-20, and 58-63 are rejected under 35 U.S.C. 103(a) as being unpatentable over Raphaeli (US App. 2003/0103521) in view of Sato (US 6,718,159) and Parruck (US 7,286,566).

Re claims 10 and 58:

Raphaeli discloses *a physical layer* (Para.[0095] Each device comprises a PHY or physical layer and Fig.2 ref.28).

Raphaeli further discloses *an upper layer* (Para.[0095] Each device comprises a link layer and upper layers and Fig.2 ref.26 and 24).

Raphaeli further discloses *a data link layer transmitting a packet from the upper layer to the physical layer* (Fig.2 ref.26 – where MAC is a data link layer and transmits packets from the upper layer to the physical layer).

Raphaeli further discloses *the data link configured to wait until a transmission of data through the medium is terminated* (Fig.22 ref. End of Last Transmission and Backoff).

Raphaeli further discloses *sense, after the transmission is terminated, whether the transmission medium is idle during a predetermined time interval* (Fig.20A ref.206 Channel Free? and Para.[0099] Carrier Sense Multiple Access with Collision Avoidance (CSMA/CA) and Para.[0036] establishing a channel contention period upon termination of a current transmission session).

Raphaeli further discloses *wherein priority is assigned to a message packet to be transmitted by the apparatus* (Para.[0033] Also included in the protocol are QoS features including multi-level priority classes).

Raphaeli further discloses *obtain, if the transmission medium is idle during the predetermined time interval, a competitive window based on a priority* (Fig.20A ref.202 $CW = CW_{Min}$ and Para.[0215] and Para.[0258] and Para.[0033] multiple contention windows based on priority class and Para.[0099] the contention window allocated to the particular priority class).

Raphaeli further discloses *select a transmission delay time* (*RandomDelayTime*) *randomly between a minimum value of the competitive window and a maximum value of the competitive window* (Fig.20A ref.204 $Backoff = Random(0-CW)$).

Raphaeli further discloses *check whether the transmission medium is idle during the selected transmission delay time* (*RandomDelayTime*) (Fig.20A ref.206 Channel Free?).

Raphaeli further discloses *transmit, if the transmission medium is idle during the transmission delay time, the message packet to a target device* (Fig.20A ref.214 Transmit Packet).

Raphaeli further discloses *wherein the message packet includes a length field specifying a length of the message packet, and an end indication field indicating an end of the message packet* (Para.[0158] and Table 1 Packet Length and Para.[0160] and Table 2 End of Packet).

Raphaeli further discloses *perform, if the transmission medium is not idle during the transmission delay time, an adjusting operation, wherein the adjusting operation comprises incrementing a retry-count, and incrementing the maximum value of the competitive window by a predetermined shifting value, wherein the retry-count indicates how many times the message packet is tried to be transmitted* (Fig.20B ref.232 Adjust contention window and randomize new backoff and Para.[0186] the number of retries is incremented and Fig.14).

Raphaeli does not explicitly disclose *a predetermined time interval determined regardless of priority*.

Sato discloses *a predetermined time interval determined regardless of priority* (Col.6 lines 9-13 after a predetermined period of carrier send when the idle states of the respective stations are confirmed and Fig.11 ref. 125).

Raphaeli and Sato are analogous because they both pertain to data communications.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Raphaeli to include a predetermined time interval determined regardless of priority as taught by Sato in order to defined period to sense if the channel is idle.

Raphaeli does not explicitly disclose *wherein the message packet includes a start indicating field indicating a start of the message packet, and wherein when the message packet is transmitted to the target device, the target device*

determines a transmission of the message packet is failed if the end indication field is not received by the target device.

Parruck discloses *wherein the message packet includes a start indicating field indicating a start of the message packet, and wherein when the message packet is transmitted to the target device, the target device determines a transmission of the message packet is failed if the end indication field is not received by the target device* (Col.45 lines 9-15 For example, if two consecutive SOP bursts are received without an intervening EOP burst, then an error has occurred).

Raphaeli and Parruck are analogous because they both pertain to data communications.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Raphaeli to include a start field and determining a packet is failed if an end indication is not received as taught by Parruck in order to detect an error (Parruck Col.45 lines 10-15).

Re claims 15 and 59:

Raphaeli discloses *determine whether or nor the message packet is successfully transmitted* (Fig.14 ref.94).

Raphaeli further discloses *increment, if the message packet is not successfully transmitted, the retry count (RetryCount) by a predetermined value* (Fig.14 ref.104).

Raphaeli further discloses *compare the retry count (RetryCount) and a predetermined backoff repeat times (BackOffRetries)* (Fig.14 ref.102).

Raphaeli further discloses *transmit, based on a result of the comparing, a transmission result to the upper layer* (Fig.12 ref.100 and ref.106 and Para.[0245] This pattern is repeated until the number of retransmissions has been exhausted. The upper communication layers will be notified).

Raphaeli does not explicitly disclose *comparing the increased retry count*.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Raphaeli to include comparing the increased retry count in order to use an updated value for counting retransmissions.

Re claims 16 and 60:

Raphaeli discloses *if, according to the result of comparison, the increased retry count (RetryCount) is greater than the backoff repeat times (BackoffRetries), the transmission result comprises a failure message (SEND-FAILED)* (Fig.14 ref.106).

Re claims 18 and 61:

Raphaeli discloses *compare a transmission execution time of the message packet and a predetermined maximum transmission allowable time (MACExecTime) before incrementing the retry-count* (Fig.20B ref.216 Timeout?).

Re claims 19 and 62:

Raphaeli discloses *transmit, based on a result of the comparison, a transmission result to the upper layer* (Fig. 20B ref.228 and Para.[0245] This

pattern is repeated until the number of retransmissions has been exhausted.

The upper communication layers will be notified).

Re claims 20 and 63:

Raphaeli discloses *if, according to the result of the comparison, the transmission execution time of the message packet is greater or equal to the maximum transmission allowable time (MACExecTime), the transmission result comprises a failed message (SEND_FAILED) (Fig.20B ref.228).*

Response to Arguments

3. Applicant's arguments with respect to claims 10 and 58 have been considered but are moot in view of the new ground(s) of rejection.
4. Applicant's arguments filed 8/23/2010 have been fully considered but they are not persuasive.

In the remarks, Applicant contends Raphaeli does not disclose a contention window based on a priority.

The Examiner respectfully disagrees. Raphaeli does disclose a contention window based on a priority (Para.[0033] multiple contention windows based on priority class and Para.[0099] the contention window allocated to the particular priority class).

In the remarks, Applicant contends Raphaeli does not disclose incrementing the maximum value of the competitive window by a predetermined

shifting value, wherein the retry count indicates how many times the message packet is tried to be transmitted.

The Examiner respectfully disagrees. Raphaeli does disclose incrementing the maximum value of the competitive window by a predetermined shifting value, wherein the retry count indicates how many times the message packet is tried to be transmitted (Fig.20B ref.232 Adjust contention window and randomize new backoff and Para.[0186] the number of retries is incremented and Fig.14).

In the remarks, Applicant contends Raphaeli does not disclose the size of the competitive window is changed based on priority and the retry-count.

The Examiner respectfully disagrees. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., the size of the competitive window is changed based on priority and the retry-count) are not recited in the rejected claim(s). The Examiner would further like to note, as stated in the Final Office Action on 6/22/2010, support for a competitive window based on a priority and a retry-count is lacking.

Conclusion

2. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Yu (US App. 2001/0043603) shows a start of packet, end of packet, and detecting an error with the end of packet.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MOHAMMAD ADHAMI whose telephone number is (571)272-8615. The examiner can normally be reached on Monday-Friday 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on (571)272-3179. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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